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J. Helminthol. Soc. Wash.
61(1), 1994, pp. 113–114

Research Note

Sarcocystis felis (Protozoa: Sarcocystidae) from the African Lion (*Panthera leo*)

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ABSTRACT: Sarcocysts of *Sarcocystis felis* were found in skeletal muscle of a 7-yr-old African lioness (*Panthera leo*) from Kenya, Africa. Sarcocysts were up to 1,650 μ m long and up to 150 μ m wide. The cyst wall was 1.0–1.5 μ m thick and had characteristic fingerlike villar projections.

KEY WORDS: *Sarcocystis felis*, lion, *Panthera leo*, Sarcocysts.

Sarcocystis spp. undergo a 2-host life cycle involving prey and predator animals. Infection of muscles by *Sarcocystis* spp. (sarcocysts) is common in herbivores. Until recently, infection of muscles by sarcocysts in carnivores was considered rare (Dubey et al., 1989). Sarcocysts were found in more than half of bobcats, cougars, and panthers examined in 3 studies (Greiner et al., 1989; Anderson et al., 1992; Dubey et al., 1992). Only one morphologic type of sarcocyst was found in bobcats (*Felis rufus*), domestic cats (*Felis do-*

mesticus), Florida panthers (*Felis concolor coryi*), and cougars (*Felis concolor floridanus*). Dubey et al. (1992) proposed the name *Sarcocystis felis* for *Sarcocystis* in muscles of Felidae. Although sarcocysts were reported previously from lions from India (Bhatavedkar and Purohit, 1963; Somvanishi et al., 1987) and Africa (Bwangamoi et al., 1990), the purpose of this article is to report species of *Sarcocystis* from the African lion, *Panthera leo* (*Felis leo*).

Specimens of heart and skeletal muscle from a 7-yr-old lioness from Nairobi National Park, Kenya, were fixed in 10% formalin solution (Bwangamoi et al., 1990). The lioness was euthanized because of rabies virus infection (Bwangamoi et al., 1990). Paraffin sections were cut at 5–6 μ m thickness and examined microscopically after staining with hematoxylin and eosin.

Sarcocysts were seen in 11 of 15 sections of

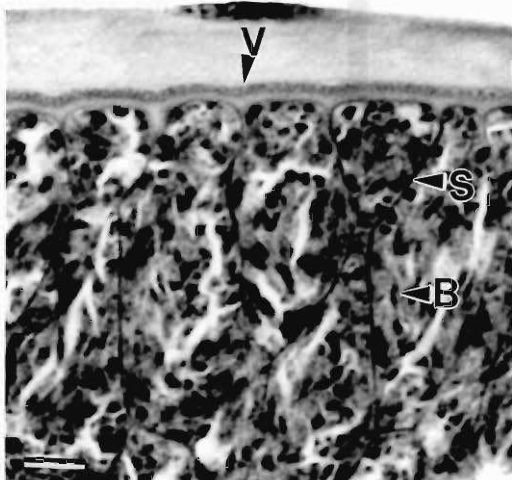


Figure 1. *Sarcocystis felis* sarcocyst in section of skeletal muscles from the African lioness. Note villar projections on the cyst wall (V), septa (S), and bradyzoites (B). Hematoxylin and eosin stain. Bar = 10 μ m.

skeletal muscle but not in 22 sections of the heart. Sarcocysts were up to 1,650 μ m long and up to 150 μ m wide, were septate, and contained mostly bradyzoites. The cyst wall was 1.0–1.5 μ m thick and had small fingerlike villar projections (Fig. 1).

One sarcocyst from the paraffin block was deparaffinized and examined ultrastructurally (Dubey et al., 1992). Although the sarcocyst was fixed poorly, the villar projections on the sarcocyst wall from the lioness were similar to those of *S. felis* from the bobcat (Dubey et al., 1992).

Structurally, the sarcocysts in the African lion were identical to *S. felis* sarcocysts in the bobcat

(Dubey et al., 1992). Sarcocysts were previously reported from lions from India (Bhatavedkar and Purohit, 1963; Somvanshi et al., 1987) and Africa (Bwangamoi et al., 1990), but it is difficult to judge the species involved from the descriptions provided by the authors. *Sarcocystis felis* sarcocysts were recently found in the musculature of 7 of 10 cheetahs (*Acinonyx jubatus*) from the U.S.A. (Briggs et al., 1993).

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